

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

HEADWATER RESEARCH LLC,

Plaintiff,

v.

CELLCO PARTNERSHIP d/b/a VERIZON
WIRELESS, and VERIZON CORPORATE
SERVICES GROUP, INC.,

Defendants.

C.A. No. 2:23-CV-00352-JRG-RSP

HEADWATER RESEARCH LLC,

Plaintiff,

v.

T-MOBILE USA, INC., and SPRINT CORP.,

Defendants.

C.A. No. 2:23-CV-00379-JRG-RSP

(Lead Case)

HEADWATER RESEARCH LLC,

Plaintiff,

v.

T-MOBILE USA, INC., and SPRINT CORP.,

Defendants.

C.A. No. 2:23-CV-00377-JRG-RSP

(Member Case)

DEFENDANTS' RESPONSIVE CLAIM CONSTRUCTION BRIEF

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| B | Microsoft, Security Policy Settings, available at: https://learn.microsoft.com/en-us/previous-versions/windows/it-pro/windows-10/security/threat-protection/security-policy-settings/security-policy-settings |
| C | CLI Book 2: Cisco ASA Series Firewall CLI Configuration Guide, Ch. Service Policy, available at: https://www.cisco.com/c/en/us/td/docs/security/asa/asa94/config-guides/cli/firewall/asa-94-firewall-config/inspect-service-policy.html |
| D | Cisco, What is Network Policy, available at: https://www.cisco.com/c/en/us/solutions/enterprise-networks/what-is-network-policy.html |
| E | August 9, 2024 Declaration of Dr. Donald Turnbull ("Turnbull Decl.") |

I. INTRODUCTION

Defendants' proposed constructions conform to the requirements of the claims, as informed by the disclosures of the specification—where it provides guidance. There are some disputed claim terms, however, for which the claims and specification only obscure, rather than clarify, the meaning of the selected claim language. In these instances, the claim terms are indefinite because the meaning intended by the patentee is indiscernible to an ordinarily skilled artisan (“POSITA”).

For the terms Defendants seek to construe affirmatively, Headwater advocates nebulous and undefined “plain meaning” proposals even where rejection of Defendants’ proposals leads to absurd results and direct conflicts between claim elements. That is despite the fact that the parties by-and-large *agree* on the fundamental scope and meaning of these disputed claim terms—an understanding which is uniformly reflected in Defendants’ proposals. Defendants’ proposed constructions merely provide necessary clarifications for the jury to avoid nonsensical results, and should therefore be adopted.

II. THE ASSERTED PATENTS

A. The '541 Patent

The '541 patent, “Device-assisted services for protecting network capacity,” is directed to computer-readable media for controlling access to a wireless network by a user device. The '541 Patent states that a “network capacity crunch” exists due to “increasing network congestion on various wireless networks” as a result of indiscriminate access to those networks by wireless devices. *See* '541 Patent at 3:28–32. The solution the patent purports to provide is “controlling network service usage activities at the source of the demand—the device.” *Id.* at 9:44–46.

The claims of the '541 Patent focus on controlling a “service usage activity” on a user’s wireless device through the application of a “policy” when the service usage activity is a

“background activity.” ’541 Patent, cl.1. The specification of the ’541 Patent explains that a service usage activity is an activity that is “generat[ed]” by “an application, an operating system (OS), and/or other device function” on the user’s wireless device. *Id.* at 19:10–15. While the ’541 Patent does not provide a clear explanation of what constitutes a “background activity,” it does disclose that a policy (e.g. a “network capacity controlled services control policy”) may be applied by the device for “controlling” the “service usage activities” that are determined to be background activities. *See, e.g., id.* at 69:5–38, Fig. 14.

B. The ’613 Patent

The ’613 Patent is titled “Wireless end-user device with differential traffic control policy list having limited user control” and shares a specification with the ’541 Patent. The claims of the ’613 Patent are likewise directed to a “wireless end-user device” that is capable of controlling access to wireless networks. Specifically, the ’613 Patent recites the use of a “differential traffic control policy” to control “internet service activities” from a wireless device based on a number of considerations. *See ’613 Patent, cl.1.* These considerations include the “wireless network to which the device currently connects,” the particular application from which the “internet service activities” originate, and whether that application is presently “interacting with the user in the user interface foreground of the device.” *Id.* Like the ’541 Patent, the ’613 Patent does not provide a clear explanation of what constitutes the “user interface foreground of the device.” However, in the event an application meets those criteria, the internet service activity in question may be “allow[ed] or den[ied]” based on the “differential traffic control policy,” the wireless network to which the device is connected, and categorization of the application itself. *See id.*

C. The ’042 Patent

The ’042 Patent, titled “Security Techniques for Device Assisted Services,” describes basic communications methods and systems for updating a setting on a mobile end-user device. ’042

Patent at Abstract. The specification describes how a mobile device can report “traffic statistics, projected traffic demand, application usage, [and] projected QOS demand . . . to the servers or other authorized network elements.” *Id.* at 13:65–14:1. This reporting is done “for the purpose of provisioning the right amount of data bandwidth and traffic priority to the device.” *Id.* at 14:1–2.

The claimed method first involves receiving a report about a device service state from a wireless end-user device over a service control link. *Id.* at Claim 1. Next, the method describes determining, based on the report, that a particular service policy setting of the wireless end-user device needs to be modified. *Id.* The particular service policy setting is stored in a protected partition of the wireless end-user device, associated with a service profile that provides for access by the wireless end-user device to a network data service, and configured to assist in controlling one or more communications associated with the wireless end-user device. *Id.* Finally, in response to determining that the particular service policy setting on the device needs to be modified, the method involves sending configuration information to the end-user device over the service control link to assist in modifying or allowing modifications to the particular service policy setting. *Id.*

III. DISPUTED CLAIM TERMS

A. “one or more prospective or successful communications [over a wireless network]” (’541 Patent, Claim 1)

| Defendants’ Proposed Construction | Plaintiff’s Proposed Construction |
|-----------------------------------|--|
| Indefinite | Not indefinite; no construction necessary; plain and ordinary meaning. |

Claim 1 of the ’541 Patent is indefinite because when “read in light of the specification delineating the patent, and the prosecution history, [it] fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). The claim recites that the “service usage activity” comprises either

“prospective or successful communications” “over a wireless network.” The intrinsic record fails to provide guidance on what constitutes a “prospective communication,” including where it begins or where it transitions from “prospective” to “successful.” The specification does not even use the terms “prospective” or “successful” outside the claims.

The claim language provides no discernable boundaries to define the scope of a “prospective communication,” and the very recitation of both “prospective” and “successful” communications in the claim only confuses matters, including whether or not they are mutually exclusive. The ’541 Patent explains that the purpose of the policy “for controlling the service usage activity” is to protect network capacity by **blocking/preventing** some communications from accessing a wireless network. *See id.* at 18:8–19:58; Br. at 9 (“a fundamental concept of the ’541 Patent is that certain communications are . . . in some way, ‘not permitted to occur.’”); Ex. E (Turnbull Decl.) ¶¶38, 61. A POSITA would therefore understand that a policy designed to protect network capacity would have no impact on network capacity when applied to a communication already sent over the wireless network (*i.e.*, what a POSITA would normally consider to be a “successful communication”). *Id.*, ¶62. Even throttling requires at least temporarily preventing a communication before it successfully traverses the network. Thus, a POSITA would be confused about the scope of “prospective or successful communications” from the nonsensical inclusion of “successful communications” in the claim, for which a policy to control service usage activity has no logical application. *Id.*

Because the specification provides no guidance regarding “prospective communications,” its meaning relies on the understanding of a POSITA. But there is no single definition of what constitutes a “prospective communication” in the relevant field. *Id.*, ¶56. Indeed, the term could have at least five different and contradictory meanings, and the claim and specification offers no

guidance to a POSITA to choose between them. A POSITA would consider that “a prospective communication” could refer to:

- a communication potentially initiated in the future (*e.g.*, email app set to sync which would require communications with a server). *Id.*, ¶57.
- a communication initiated only when app determines one must be made (*e.g.*, when email app initiates a sync routine but before sending request to the operation system (“OS”)). *Id.*
- a communication initiated only when the application requests permission from the OS to access the network (*e.g.*, email app invokes API call for network permissions). *Id.*, ¶58.
- a communication initiated only when the application actually sends its content to the OS for routing over the wireless network (*e.g.*, email app invokes API call sending data). *Id.*
- a communication only once it is sent over the wireless network but has not reached its destination (*e.g.*, OS sends data to network). *Id.*, ¶59; '541 Patent at 13:13–19 (discussing an activity that is controlled or blocked “by central network equipment” or “somewhere in the network behind the base station”).

A POSITA would not know with reasonable certainty which of these conflicting definitions describes the scope of the term “prospective communication” without guidance from the intrinsic record that is lacking. Ex. E (Turnbull Decl.) ¶¶56–58.

Plaintiff contends that the plain and ordinary meaning of a “prospective communication” is “simply a *potential* or *eligible* communication over a wireless network” and faults defendants for allegedly taking a conflicting position in an IPR. Br. at 7, 9. But this misses the point. The intrinsic record “must provide objective boundaries for those of skill in the art” and substituting “potential” or “eligible” for “prospective” does nothing to identify the boundaries, and in fact further confuses the issue as “potential” and “eligible” are not synonyms. *Interval Licensing LLC v. AOL Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014); *Nautilus*, 572 U.S. at 1371; *see also* Br. at 8 (quoting Turnbull Dep. at 64:3–20) (noting that “eligible” and “potential” are different and both merely “generally ideas.”) That defendants and their expert can identify *some* “prospective communications” (*e.g.*, queued packets for transmission) does not render the term definite where

there are multiple possible definitions. *Media Rights Tech. Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1371 (Fed. Cir. 2015) (“a claim is indefinite if its language might mean several different things and no informed and confident choice is available among the contending definitions”) (internal marks omitted). It is not enough that the parties can agree on one example of a “prospective communication”; what matters is that the parties disagree—and there is no guidance in the specification to allow a POSITA to determine—where the boundaries of a “prospective” communication lie.

Here, even under Plaintiff’s proposed construction, the term could include the mere *idea* of a communication (e.g., app configured to sync before attempting sync). But the policy in claim 1 is only applied to the service usage activity if it “is the background activity,” implying it must be actually initiated. Yet, dependent claims require that applying the policy includes “preventing initiation of the service usage activity.” *See* ’541 Patent, cls. 34, 42, 60, 84. As a result, it would be unclear whether, e.g., preventing all activity of an email app, not just network activity, constitutes blocking a prospective communication, when there is no “background activity”. *See Nautilus*, 572 U.S. at 909–910 (cautioning against “zone of uncertainty”).

Because claim 1 of the ’541 Patent when “read in light of the specification delineating the patent, and the prosecution history, fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention,” the ’541 Patent is invalid. *Nautilus*, 572 U.S. at 901.

B. “service usage activity” (’541 Patent, Claim 1)

| Defendants’ Proposed Construction | Plaintiff’s Proposed Construction |
|--|--|
| “an activity by the first software component that requires usage of a wireless network connection” | No construction necessary; plain and ordinary meaning. |

Headwater's contention that the plain and ordinary meaning is sufficient here is belied by its argument that a "service usage activity" would (1) include activities not generated by the application, allowing Headwater to argue that *e.g.*, the application itself is the service usage activity, and (2) not require a *wireless* network connection—both of which are contrary to the claim language. The plain and ordinary meaning of a term is its meaning to the ordinary artisan in context of the surrounding claim language and the specification. *Eon Corp. Holdings v. Silver Spring Networks*, 815 F.3d 1314, 1320 (Fed. Cir. 2016). In that context, Defendants' proposed construction is the plain and ordinary meaning.

Headwater suggests the first dispute is over whether the "service usage activity" can merely be associated with a "software component" as opposed to being generated "by" the "software component," but that is not the issue. The problem is that Headwater's construction would wrongly allow the "software component" itself to *be* the "service usage activity." The claims and specification confirm that the "service usage activity" cannot be the "software component," and instead is *associated with / generated by* the "software component." To the extent Headwater's complaint is that Defendants' proposal would exclude a "service usage activity" *indirectly* generated by the "software component" (*e.g.*, by an API call), that misreads Defendant's proposal.

Independent claim 1, from which all other claims depend, reflects the two key characteristics of the "service usage activity" addressed in Defendants' proposal. *First*, the service usage activity is an activity taken by a first software component, *e.g.* an application on the wireless end user device. The service usage activity is not the application itself: "the service usage activity" is instead "**associated with** a first software component of a plurality of software components on the wireless end-user device." '541 Patent, cl.1. *Second*, the service usage activity necessarily requires usage of a wireless network connection because "the service usage activity compris[es]

one or more prospective or successful communications over a *wireless* network.” *Id.* Defendants’ proposal accurately captures these two fundamental aspects of the claimed “service usage activity” as described in the specification and claims.

The specification consistently describes the “service usage activity” as an action taken by a software component on the device—not a software component (e.g. application) itself.¹ For instance, the specification explains that “an application, an operating system (OS), and/or other device function *generates* one or more network service usage activities.” *Id.* at 19:10–15. This distinction between the software component (e.g. application) and service usage activity (e.g. activity by an application) is consistently repeated throughout the specification. *See, e.g., id.* at 18:50–54 (“classifying one or more network service activities *associated with* an application or OS function to a background service class, while *other* network service activities *associated with* that application or OS function are classified to other service classes”); 42:2–3 (“QoS priority can be based on activity (e.g., service usage *and/or* application)”; 57:15–18 (“a user of the communications device can identify QoS classes/service levels for various applications *and/or* service activities.”). Both the specification and the claims thus confirm, as reflected in Defendants’ proposal, that a service usage activity is “an activity *by* the first software component,” and thus the service usage activity cannot be an application itself.

Headwater’s resort to claim differentiation, which appears to be based on erroneously reading “directly” into Defendants’ proposal, does not change this outcome because none of the dependent claims Headwater highlights conflict with Defendants’ proposal. *See* Br. at 11–12. For instance, although claim 9 recites that the “service usage activity results from cooperation between

¹ The specification refers consistently to a “network service usage activity” when describing the subject matter claimed in the ’541 patent. The term “service usage activity” alone is only used infrequently in the specification but is likewise consistent with Defendants’ proposal.

the first software component and at least one other software component,” it is still true that the service usage activity is still the *result* from a “software component” and is not a software component itself. The same is true for claim 16, which recites “cooperation” between the first software component and a “proxy function,” as well as for claims 28, 29, and 35, which relate to whether a policy is *based on* the “first software component” or the “service usage activity.” Contrary to Headwater’s argument, the fact that these claims differentiate between the two *supports* Defendants’ proposal. Moreover, when the patentee wanted to distinguish between different service usage activities by different components (e.g. not just the “first software component”), the claims accordingly refer to a “first” and “second” service usage activity from a “first” and “second” software component.” *See* ’541 Patent, cl.160. The dependent claims highlighted by Headwater thus only support Defendants’ proposal.

The specification likewise confirms that a service usage activity necessarily “requires usage of a wireless network connection” as reflected in Defendants’ proposal. The ’541 Patent addresses the problem of a “network capacity crunch” due to “increasing network congestion on various wireless networks, such as mobile networks.” *Id.* at 3:28–32. The solution for “protecting network capacity” proposed by the ’541 Patent is “controlling network service usage activities at the source of the demand—the device.” *Id.* at 9:44–46. Accordingly, the specification defines a network service usage activity as “any activity by the device that includes **wireless** network communication.” *Id.* at 19:8–10. This definition is followed by a laundry list of examples of network service usage activities that are *all* different types of “connections,” e.g. “a voice connection,” “an email text connection,” or “a streaming media connection.” *See id.* at 19:15–58. And, because the claims specifically recite “a service usage activity of the **wireless** end user device,” this list of examples thus uniformly refer to **wireless** connections. The disclosures in the

specification thus confirm that the recited service usage activity necessarily “requires usage of a wireless network connection.”

Headwater baselessly claims that the service usage activity “may be performed over a wireless or wired connection.” Br. at 10. Even if the specification supported this expansion (it does not), the claims explicitly *exclude* services usage activities over a wired connection by reciting that the service usage activity occurs on “a *wireless* end-user device” and comprises a “communication[] over a *wireless* network.” ’541 Patent, cl.1. Because of this clear disclaimer, the service usage activity necessarily “requires usage of a wireless network connection.” *See, e.g.*, *Nanoco Techs. Ltd. v. Samsung Elecs. Co.*, No. 2:20-CV-00038-JRG, 2021 WL 1890453, at *18 (E.D. Tex. May 11, 2021) (“Had the patentee wanted to specifically broaden the claim as proposed by Plaintiff, it could have easily done so in the claim by using a different word.”).

C. “background activity” (’541 Patent, Claim 1)

| Defendants’ Proposed Construction | Plaintiff’s Proposed Construction |
|-----------------------------------|--|
| Indefinite | Not indefinite; no construction necessary; plain and ordinary meaning. |

The term “background activity” is indefinite because the patentee chose to describe multiple conflicting embodiments within the specification of the ’541 Patent but failed to choose one for the claims. The terms “foreground” and “background” are used inconsistently within the specification and can have different scopes in different systems. *Media Rights Tech.*, 800 F.3d at 1371 (“a claim is indefinite if its language might mean several different things and no informed and confident choice is available among the contending definitions”) (internal marks omitted).

Plaintiff contends that the term has a plain meaning in the art and points to a disclosure that “even when the user is not directly interacting with an application, the application can be running in the background.” Br. at 13 (citing ’541 Patent at 14:47–15:4). But plaintiff intentionally omits

an important part of the disclosure. The actual disclosure is: “For example, even when the user is not directly interacting with or benefiting from this type of application, the application can be running in the background.” *Id.* (emphasis added).² Plaintiff tries to distance itself from this key language because it exposes an ambiguity—if a user is merely “benefitting from” an application without “directly interacting” with it, is that application in the background, the foreground, or something else? For example, if a user plays music on her device from a music application while she reads email in a mail application in the foreground, is playing music considered a background activity? She is not directly interacting with the music application, but she is benefitting from it. What if the device is playing a video that is muted while the user reads email in the mail application? Plaintiff points to additional disclosures in the specification, but none of them explain whether background and foreground are mutually exclusive (and Plaintiff suggests otherwise, *see* Br. at 14 (criticizing Dr. Turnbull for discussing “foreground” in his analysis of “background activity”)), or if they are mutually exclusive, where that line is drawn. Exacerbating the problem is the fact that some users may perceive a benefit from an activity that others might not, *e.g.*, credit for watching a required video that is muted and not in the UI foreground, resulting in the zone of uncertainty cautioned against by the Supreme Court. *See Nautilus*, 572 U.S. at 909–910.

Plaintiff also points to Defendants’ IPR petition as inconsistent, but Defendants’ ability to point to a prior art reference for the disclosure of determining whether an activity is a background activity where the reference provides sufficient context is irrelevant to the definiteness of this term in view of the intrinsic record. *Media Rights Tech.*, 800 F.3d at 1371. At times, there are activities

² This ambiguity is discussed below with respect to the ’613 Patent claims, which further conflate foreground and background activities. Contrary to Plaintiff’s contention otherwise, related patents are considered part of the intrinsic record for the purpose of claim construction. *See infra* § E; *see, e.g.*, *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1333–34 (Fed. Cir. 2003) (considering prosecution history of related patents).

that are clearly either in the foreground (*e.g.*, video app while watching movie in the UI foreground) or in the background (*e.g.*, mail app not in the UI foreground syncing email). The problem is that there are also activities that are not clearly in the background such as the examples discussed above (*e.g.*, muted video not in the UI foreground).

The specification provides diverging possibilities for where that line is drawn. For instance, according to the specification, traffic categorization can be based on various criteria including “whether the particular service usage activity is in the foreground of user interaction or in the background of user interaction.” ’541 Patent at 107:49–57. Classification rules can also depend on whether, within a specified period of time, a user has interacted with the device, has interacted with the service usage activity, or has even merely picked up the device. *Id.*, 107:57–61. Further, the ’541 Patent also provides that “[r]ules that define which service usage activities to classify as, *e.g.*, background service usage activities can be user-selected, set by a service provider, or through some other applicable means.” *Id.* at 107:66–108:2. Accordingly, a POSITA would understand that the distinction between “background” and “foreground” depends on the particular device implementation including user or service-provider settings. Unless the device implementation explicitly defines the terms, a POSITA would be left “to consult the unpredictable vagaries of any one person’s opinion” as to which rules are intended to distinguish between “background” and “foreground,” or even whether they are mutually exclusive. *See Interval Licensing*, 766 F.3d at 1374 (“Such ambiguity falls within the innovation-discouraging ‘zone of uncertainty’ against which the Supreme Court has warned.”) (internal quotation marks omitted). Notably, Headwater fails to draw the line in their brief. Thus, a POSITA would be unable to infer the boundaries of a “background activity” as used in the claims with reasonable certainty, and the term is indefinite. *See Ex. E (Turnbull Decl.) ¶¶71–73; Nautilus*, 572 U.S. at 901.

D. “differential traffic control policy” (’613 Patent, Claim 1)

| Defendants’ Proposed Construction | Plaintiff’s Proposed Construction |
|--|--|
| “rule for controlling network traffic that distinguishes between two or more things” | No construction necessary; plain and ordinary meaning. |

The parties dispute whether the “differential traffic control policy” must specifically control “network traffic” and, in the course of doing so, must distinguish between two or more things (e.g. two different applications on the device). Both the claims and the specification confirm that, as reflected in Defendants’ proposed construction, both of these are necessary aspects of the “differential traffic control policy.” Headwater appears to agree that Defendants’ proposed construction *is* the plain and ordinary meaning of the term, and Headwater’s brief does not identify anything excluded by Defendants’ proposed construction. *See* Br. at 23–24 (arguing Defendants’ proposed construction would be redundant). However, Headwater’s infringement contentions cite evidence and accuse functionalities that do not meet both aspects. *See, e.g.*, Ex. A (accusing app standby and doze mode which relate to suspending all background activity, including non-network-based activities). Therefore, a construction is necessary. *See O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008) (the Court must resolve parties’ dispute over proper claim scope).

The “differential traffic control policy” recited in the claims of the ’613 Patent functions to treat some “internet service activities” on wireless end user devices differently than others. Specifically, a “differential traffic control policy list” distinguishes between a first and second set of applications on the wireless end user device, and then the “differential traffic control policy” applies to “internet service activities by or on behalf of” the first set of applications. As reflected in Defendants’ proposal, the “differential traffic control policy” is thus rules for controlling

network traffic (*i.e.* “internet service activities”) that distinguishes between two or more things (*i.e.* the first and second sets of applications).

These aspects of the “differential traffic control policy” go to the heart of the problem purportedly addressed by the ’613 patent, namely the “high frequency of inefficient wireless network accesses” by wireless devices which “can reduce network capacity sometimes to levels that hinder access to service for that device.” ’613 Patent at 5:4–11. The ’613 Patent explains that, because “some applications and/or OS functions have limited capabilities to defer certain traffic types based on fixed settings in the application,” a solution is “differentially controlling these types of network service usage activities in various ways depending on the type of service activity requesting network access.” *Id.* at 11:49–57; *see also id.* at 11:3–11:15 (“[T]echniques [are] disclosed herein for protecting network capacity facilitate implementation of services on a network to facilitate differential control of certain services to protect network capacity”). Thus, a central feature of the ’613 Patent is to differentiate—*i.e.* distinguish—between two or more service activities “depending on the type of service activity” and “control of certain services to protect network capacity” using the differential traffic control policy.

The specification reinforces this conclusion by providing embodiments where the policies apply differently based on different “classes” of applications on a user’s device.³ For instance, as relevant to claim 1, the specification discloses that a service activity may be from an application in the “background service class” and differentially controlled relative to other services from

³ While “differential traffic control policy” is never used in the specification of the ’613 patent, the same concept is referred to as a “service usage control policy” which “is used for assisting in network access control of network service usage activities (*e.g.*, deferring some or all of the network capacity demand from these source activities).” ’613 Patent at 12:11–14. In a handful of instances, the specification also refers to a “traffic control policy” specifically in the context of QoS levels. *See, e.g., id.* at 19:2–22; 21:10–31.

applications not in the “background service class.” *Id.* at 12:11–27. For example, applications within the “background service class” may have different quality-of-service (QoS) levels provided to them and thus be deprioritized over a “conversational class,” a “streaming class” or an “interactive class.” *See id.* at 16:22–54 (“A background class is generally used for lowest priority service usages ... various QoS classes or services are also applicable to the interactive class but typically not applicable to the background class.”). In this context, the differential traffic control policy thus distinguishes between two or more things—*i.e.* an application in the “background service class” and another application in a different service class.

Headwater incorrectly contends that the “differential traffic control policy list” is the only element recited in the claims that distinguishes between two or more things. While the “differential traffic control policy list” does distinguish between the “first one or more applications” and the “second one or more applications and/or services,” the “differential traffic control policy” *also* necessarily distinguishes between those two sets of applications because it applies *only* to the “first one or more applications,” and *not* the “second one or more applications.” If the “differential traffic control policy” did not distinguish between the sets of applications, it would lead to the absurd result that it applies to all internet services activities, in clear contravention of the claims and specification.

E. “classify whether a particular application capable of both interacting with the user in a user interface foreground of the device, and at least some Internet service activities when not interacting with the user in the device user interface foreground, is interacting with the user in the device user interface foreground” (’613 Patent, Claim 1)

| Defendants’ Proposed Construction | Plaintiff’s Proposed Construction |
|-----------------------------------|--|
| Indefinite | Not indefinite; no construction necessary; plain and ordinary meaning. |

Claim 1 of the '613 patent requires classification by one or more processors based on “whether a particular application . . . is interacting with the user in the device user interface foreground.” This limitation is indefinite for at least two reasons. *First*, as discussed above with respect to “background activity” for the '541 Patent (which shares a specification), a POSITA would not know with reasonable certainty the boundaries between “foreground” and “background” based off of the intrinsic record. *Second*, the doctrine of claim differentiation further obscures the boundaries of “interacting with the user in the . . . user interface foreground” to a POSITA, leaving a POSITA without reasonable certainty as to when claim 1 may be satisfied.

Claim 6 of the '613 Patent depends from claim 1 and recites that “the one or more processors are configured to classify that the particular application is interacting with the user in the device user interface foreground *when the user of the device is directly interacting with that application or perceiving any benefit from that application.*” Although, as Plaintiff points out, this Court previously found the term “perceive any benefit” to not be indefinite in a related patent in another case, the context of this claim is different from that matter. In particular, in the other case, the Court found the “perceive any benefit” inquiry to be “directed to determining if an application is running in the foreground or background.” Case No. 22-cv-00422-JRG-RSP, Dkt. 107 at 10. In contrast, here the “perceiving any benefit” inquiry in the context of the rest of the claim is directed towards whether “the particular application *is interacting* with the user in the device user interface foreground.” '613, cl. 6 (emphasis added).

There is an “especially strong” presumption that a dependent claim has a different scope from the independent claim from which it depends when there is a dispute over whether a limitation from the dependent claim should be read into the independent claim and that limitation is the only meaningful difference between the two claims, as is the case here. *Ecolab, Inc. v. Paraclipse, Inc.*,

285 F.3d 1362, 1375 (Fed. Cir. 2002) (citation omitted). Here, the only meaningful difference between claim 1 and claim 6 is that the classification occurs “when the user of the device is directly interacting with or perceiving any benefit from that application.” *Compare* ’541 Patent, cl. 1 with *id.*, cl. 6. Accordingly, there is a strong presumption that claim 1 encompasses something more—specifically, classifying that the application is interacting with the user in the device interface ***foreground*** when the user is ***not*** directly interacting with or perceiving any benefit from that application. *See id.*; Ex. E (Turnbull Decl.) ¶¶74. Headwater provides no basis in the intrinsic record to overcome that presumption.

However, nothing in the specification explains how a user may not be “***directly*** interacting with . . . or perceiving any benefit from [an] application” where that application is still “interacting with the user in the device user interface ***foreground***.” Rather, the specification only provides an example of an application running in the ***background*** when the user is not directly interacting or benefiting from the application. *See* ’613 Patent at 8:18–22. In other words, because of claim differentiation, claim 1 necessarily encompasses “foreground” applications ***beyond*** those applications for which the user is “directly interacting with that application or perceiving any benefit from that application.” ’613 Patent, cl. 1, 6. But the specification provides no guidance on, if a user is not directly interacting with or perceiving any benefit from an application, what these foreground applications could be, how the user could possibly interact with them other than directly interacting or perceiving any benefit, or how a POSITA could distinguish between these foreground applications and background applications. Is a user interacting with music in the background? What about a muted video in the background? Accordingly, a POSITA would not be able to ascertain the scope of this term with reasonable certainty from the intrinsic record, and this term is indefinite. Ex. E (Turnbull Decl.) ¶¶74–77.

F. “device service state” (’042 Patent, Claim 1)

| Defendants’ Proposed Construction | Plaintiff’s Proposed Construction |
|---|---|
| “information about the current status of the device required to adequately define the actions needed from the service controller to maintain proper device-assisted service (DAS) system operation” | Plain and ordinary meaning; no construction necessary |

Defendants’ construction reflects the proper scope of this term, which is defined in the intrinsic record. Acting as a lexicographer, the patentee defined “device service state”:

In addition to such information that exists on the device and is reported to the service controller, additional service information can be derived and recorded in the service controller, such as information received from outside the device and/or analysis of the device reported information For example, *the information reported from the device and received or derived outside the device that is required to adequately define the actions needed from the service controller to maintain proper DAS system operation* is sometimes referred to herein as *the “device service state.”*

’042 Patent at 17:59–18:11 (emphasis added). The specification explains that information from the end-user device “is reported to the service controller,” *id.*, 17:59–18:6, and provides a specific definition for a certain type of that information as the “device service state,” *id.* 18:6–11. The patentee thus “clearly set forth a definition of the disputed claim term,” and “clearly express[ed] an intent to define the term.” *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

Despite this clear definition, Headwater asserts that no definition of “device service state” is needed and that it should be understood according to its plain meaning. Br. at 15. Headwater is wrong. Headwater’s argument that “[t]he patent’s passage at 18:6-11 . . . only describes an ‘example’ in the specification” (Br. at 15) is incorrect and mischaracterizes the patent specification. The cited passage, when read in context, does not merely provide an example of a “device service state” but instead specifically and clearly defines that term. The sentence

preceding the section of the specification cited by Headwater states that “[i]n addition to such information that exists on the device and is reported to the service controller, additional service information can be derived and recorded in the service controller, such as information received from outside the device and/or analysis of the device reported information.” ’042 Patent at 17:59–64. The specification then defines one specific type of the information as *the* device service state: “For example, the information reported from the device and received or derived outside the device that is required to adequately define the actions needed from the service controller to maintain proper DAS system operation is sometimes referred to herein as the ‘device service state.’” *Id.* at 18:6–11. Given the context, this sentence does not provide one example of information that could be considered a device service state, but instead describes one specific type of reported information and provides *the* definition for this specific type of reported information as the device service state.

Headwater has not pointed to a single section of the specification that is inconsistent with Defendants’ construction. And, in fact, other portions of the ’042 Patent specification likewise support Defendants’ construction. For example, the specification explains that if the server that is running the service controller goes down, then “another server could later resume proper operation of the DAS system by assigning another service controller server function to the device and recovering or restoring the necessary past device service state and the necessary current device service state.” ’042 Patent at 18:27–31. This confirms that the device service state is information about the current status of the device required to adequately define the actions needed from the service controller to maintain proper DAS system operation even after the service controller goes down. Further, the information, settings, record, location, state and reports of claims 14–18 all comprise information about the status of the device that is consistent with Defendants’ construction of “device service state.”

Headwater cites *Kyocera Senco Indus. Tools Inc. v. Int'l Trade Comm'n*, 22 F.4th 1369 (Fed. Cir. 2022) to support its contention that “[t]he specification’s usage of the phrase ‘sometimes referred to herein’ is insufficient to convey lexicographical intent,” but *Kyocera* actually confirms that Defendants’ construction is correct. Br. at 15. The Court in *Kyocera* found lexicography where the patentee clearly defined the term “driven position” in the patent’s written description. 22 F.4th at 1378–79. The specification at issue in *Kyocera* stated that “[t]his bottom position is also sometimes referred to herein as **the** ‘driven position.’” *Id.* at 1379 (emphasis added). Finding that “nothing about this statement suggests the ‘bottom position’ is merely an example of a driven position,” but that “it is **the** driven position,” the Court construed the term in line with this express definition. *Id.* (emphasis in original). In the exact same way, the ’042 Patent specification here states that the information recited in Defendants’ proposed construction “is sometimes referred to herein as **the** ‘device service state.’” ’042 Patent at 18:10–11 (emphasis added).

The *Kyocera* Court’s construction of “driven position” is particularly relevant in light of that Court’s other constructions in that case. Specifically, in a different instance, the Court found no lexicography for the “lifter member” term where the specification merely provided that “the rotary-to-lifter 100 is also sometimes referred to herein as **a** ‘lifter member,’ or simply as **a** ‘lifter.’” *Kyocera*, 22 F.4th at 1381 (emphasis added). Reasoning that “each of these [cited] passages provides **an example** of **a** lifter member, rather than **a definition** of **the** lifter member,” the Court declined to adopt the construction of the term tied to the “sometimes referred to” language. *Id.* at 1381 (emphasis added).

Kyocera thus stands for the proposition that where a specification merely provides that a phrase is “sometimes referred to as” **a** claim term, the specification is not defining the claim term but is merely providing an example of the term, but when the patent states that a definition is

“sometimes referred to as” *the* claim term, the specification is defining that claim term. 22 F.4th at 1378–82. Because the cited portion of the specification here recites that Defendants’ proposed construction “is sometimes referred to herein as *the* ‘device service state,’” lexicography applies.

Headwater’s argument that the term “device service state” and its definition do not “appear in a context where lexicographical intent can be properly found” is wrong. Br. at 16. As previously mentioned, the sentence preceding the section of the specification defining “device service state” describes specific types of information that can be reported from the user device to the service controller. ’042 Patent at 17:59–64. The specification then defines one specific type of the information as the device service state. *Id.* at 18:6–11. “Nothing about” the cited portions of the specification here, when read in context, “suggests” the provided definition for device service state “is merely an example of a” device service state. *Kyocera*, 22 F.4th at 1378.

Headwater next contends that “the ’042 Patent’s ‘device service state’ term is not one which can readily be reduced to an exemplary description in the specification, unlike in the mechanical arts context presented in *Kyocera*.” Br. at 16. But the specification provides a clear definition for a specific type of information as the “device service state,” and Headwater has not explained why “device service state” cannot be defined in this manner. Further, the Court in *Kyocera* adopted patentee’s proposed construction for “driven position” because the specification at issue there suggested there could be only a “single” position for the piston, which was inconsistent with defendants’ proposed construction. 22 F.4th at 1378–79. Here, Headwater has proposed no construction and has failed to point out how the specification is inconsistent with Defendants’ proposed construction.

Headwater’s additional quibbles with Defendants’ construction are meritless. Headwater complains that Defendants’ construction does not exactly track the definition of “device service

state” provided in the specification and introduces the term “device assisted service” into claim 1, Br. at 16–17. But Defendants’ construction concisely summarizes the definition in the specification and is fully supported by the specification. Further, Defendants would be willing to agree to the precise words of the definition provided in the specification for the construction of “device service state” to moot Headwater’s concerns.

Headwater also argues that “Defendants’ proposal adds unnecessary ambiguity into the claims,” Br. at 17, but Defendants’ proposal is straightforward and dictated by the specification. Headwater has failed to provide any evidence of any commonly understood meaning of “device service state” specific to the field of the ’042 Patent (e.g., a textbook, a standard, etc.) or any understanding that imposes any limitation in the scope of the term. And Headwater has not explained how the term “device service state” is straightforward and presents no ambiguity such that it need not be construed. The term requires explanation, and ’042 Patent provides a clear and reasonably understandable definition for the term directly in the specification. Further, simply because “a juror would need to determine” what information is required to adequately define the actions needed from the service controller and what constitutes proper DAS system operation does not mean that the ’042 Patent’s definition for “device service state” is unclear or imprecise. Br. at 17. The specification provides adequate clarity regarding the definition and nothing in the specification contradicts this definition. Headwater has not explained how *any* terms in the definition for “device service state” are unclear or imprecise given the specification’s discussion and use of those terms.

Headwater next points out that certain dependent claims provide additional limitations regarding the device service state that might confuse the jury, Br. at 17–18, but none of these limitations would confuse the jury if the Court adopts Defendants’ construction. Claim 14

provides that the device service state comprises certain settings, and claim 17 provides that the device service state comprises certain reports or records. Because patentee has defined “device service state” in the specification as specific information, and the dependent claims provide further narrowing examples of that information, the settings, reports, and record in the dependent claims are necessarily included in that specific information. As a result, the jury would not need to consider whether such information is included in patentee’s definition for device service state.

Headwater argues that adopting Defendants’ construction would result in confusing redundancy because claim 1 would claim a report comprising “information about information.” Br. at 18. But a jury can easily understand a report comprising information about other, different information. And if this phrasing is confusing, the Court can easily clarify the claim to read as follows: “the report comprising information about the current status of the device” Contrary to Headwater’s claims, nothing about the proposed construction is “unworkable.” *Id.* Defendants’ proposal does not inject ambiguity and imprecision in the claims and instead merely adopts the definition of the term “device service state” drafted by patentee.

G. “service policy setting” (’042 Patent, Claim 1)

| Defendants’ Proposed Construction | Plaintiff’s Proposed Construction |
|--|---|
| “rule for governing network service usage that can be implemented on the device” | “policy setting for a network data service” |

Headwater’s proposed construction effectively repeats the claim term and provides no guidance to the jury regarding the scope of the term, while Defendants’ proposed construction is well-supported by intrinsic and extrinsic evidence and provides the proper meaning of the term to one of ordinary skill.

The claim language, specification, and extrinsic evidence all support Defendants’ proposed construction. For claim terms “with less-apparent meanings, courts consider . . . the words of the

claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.” *Polaris PowerLED Techs., LLC v. Samsung Elecs. Am., Inc.*, No. 2:22-CV-00469-JRG, 2024 WL 3013293, at *3 (E.D. Tex. June 14, 2024) (internal citations omitted). The plain language of claim 1 confirms that a service policy setting is a rule for governing network service usage when it states that the service policy setting is “associated with a service profile that provides for access by the wireless end-user device to a network data service over a wireless access network” and is “configured to assist in controlling one or more communications associated with the wireless end-user device over the wireless access network.” ’042 Patent, cl.1. Further, the claim language indicates that the service policy setting is a rule “that can be implemented on the device” when it states that the service policy setting is “of the wireless end-user device” and is “stored in a protected partition of the wireless end-user device.” *Id.*

Additional portions of the specification and claims support Defendants’ proposed construction. The specification discloses that “device assisted service agent functions include ***service usage controls and/or service usage control policy settings.***” *Id.* at 4:9–11 (emphasis added). These “service usage controls include one or more of network authorization, network authentication, network admission, access control, service usage activity classification, allowing or disallowing one or more service usage activity and traffic shaping for one or more service usage activity.” *Id.* at 4:11–17. Thus, the specification makes clear that service policy settings are rules for governing network service usage including allowing or disallowing certain service usage activities. Claim 2 also provides that “the particular service policy setting assists in implementing a roaming control, a parental control, or an enterprise wireless wide-area network (WWAN) management control.” *Id.* at cl.2. This confirms that the service policy setting is a rule that assists

in implementing particular controls for governing network service usage, as required by Defendants' construction.

The specification also supports the portion of Defendants' construction providing that the service policy setting is a rule that can be implemented on the device. The specification states that "a policy control server 154 stores policy settings for the various service plans that can be implemented ***on the device***, and communicates the appropriate policy settings to the appropriate device DAS agents." *Id.* at 8:26–30 (emphasis added). Further, the specification describes "service usage policy settings" as "reporting that is provided to the service controller regarding device service control state." *Id.* at 17:46–59. Both of these portions of the specification confirm that the service policy setting is a rule that ***can be implemented on the device***.

Extrinsic evidence supports Defendants' proposed construction. "Security policy settings are ***rules*** that administrators configure on a computer or multiple devices for protecting resources on a device or network." Ex. B at 1 (emphasis added). The plain meaning of "service policy setting" is a "rule" that is applied to an interface or applied globally. *See* Ex. C at 1 ("A service policy consists of multiple actions or rules applied to an interface or applied globally."). Network policy is "a collection of rules that govern the behaviors of network devices." Ex. D at 1. Each of these extrinsic sources confirms that one of ordinary skill would understand a security policy setting to be a rule for governing network service usage that can be implemented on a device.

Headwater argues that Defendants' proposed construction is not found in the extrinsic evidence and that there is no need for the Court to resort to extrinsic evidence. Br. at 20. But the portions of the extrinsic evidence cited above support Defendants' construction by referring to a service policy setting as a rule for governing network service usage. This extrinsic evidence confirms what one of ordinary skill would understand the claimed "service policy setting" to mean.

Headwater improperly “ignores what would be known to one of ordinary skill in the art outside of the specification.” *Polaris*, 2024 WL 3013293, at *11.

Defendants’ proposed construction does not “introduce ambiguity” as Headwater contends, Br. at 19, but instead clearly delineates the scope of the claim term based on the intrinsic and extrinsic evidence. Further, while Defendants disagree that their proposed construction is ambiguous, Defendants would be willing to accept a construction for “service policy setting” as a “rule for governing network **data** service usage that can be implemented on the device” to moot any concerns regarding ambiguity. Headwater’s construction, by contrast, does nothing to clarify the meaning of the term even though it allegedly “makes clear that the ‘service’ referred to in the phrase ‘service policy setting’ is a network data service.” Br. at 19. This alleged clarification still leaves the scope of the term unclear and ill-defined. Further, Claim 1 already includes the phrase “network data service,” undermining Headwater’s attempt to inject that language into the claimed “service policy setting.”

Defendants’ proposed construction would clarify the scope of the claim term and would not “inject confusion” as Headwater claims. Br. at 20. As discussed above, the intrinsic and extrinsic evidence supports construing service policy setting as a rule in order to clarify the claim term. Further, as previously mentioned Claim 1 provides that the service policy setting is “of the wireless end-user device” and is stored on the device, making clear that the rule is implemented on the device. Headwater argues that Claim 2 does not mention anything about where the service policy setting is implemented, Br. at 20, but Claim 2 depends from Claim 1, which supports Defendants’ construction that the service policy setting is a rule that can be implemented on the device.

Contrary to Headwater's assertion, Br. at 20, Defendants' proposal that the rule for governing network service usage "can be implemented on the device" is straightforward, and one of ordinary skill would easily understand how the rule could be implemented on the device given that the device stores the service policy setting pursuant to Claim 1. And simply because the service policy setting is "configured to assist in controlling one or more communications associated with the wireless end-user device over the wireless access network" pursuant to Claim 1 does not mean that the service policy setting cannot be a rule for governing network service usage. One of ordinary skill would readily understand that the service policy setting is a rule for governing network service usage and is configured to assist in controlling communications over a wireless network.

H. "protected partition" ('042 Patent, Claim 1)

| Defendants' Proposed Construction | Plaintiff's Proposed Construction |
|--|---|
| "a secure device assisted service execution environment" | Plain and ordinary meaning; no construction necessary |

Defendants' construction reflects the proper scope of this limitation in view of the intrinsic record. By contrast, Plaintiff's "plain and ordinary" construction offers no help to the jury to understand what a protected partition is or does. Defendants' proposed construction defines the terms in light of the intrinsic evidence and in a way that will aid the jury.

The claims and specification support Defendants' construction of protected partition as a secure device assisted service execution environment. Claim 1 states that a "service policy setting" is "stored in a protected partition of the wireless end-user device, the protected partition configured to deter or prevent unauthorized modifications to the particular service policy setting." '042 Patent, cl.1. This language makes clear that the protected partition is a secure execution environment, as the partition is configured to prevent unauthorized modifications. The

specification also equates the term “protected partition”—in the specification, “protected device assisted services (DAS) execution partition 114” or, simply, “protected DAS partition”—with a secure device assisted service execution environment. *Id.* at 6:54–65. The patent states that “protected device assisted service agents, such as the protected DAS partition device assisted service agents 110, execute ***in the protected DAS partition 114*** while unprotected device assisted service agents and/or OS networking stack elements and applications (e.g., applications 106A through 106C) execute ***outside of the secure device assisted service execution partition 114.***” *Id.* at 6:23–39 (emphasis added). And the specification provides that “various ***secure execution environments*** for ***device assisted services*** are provided using various hardware ***partition*** techniques,” *id.* at 3:42–44 (emphasis added), and also uses the terms “secure” and “protected” interchangeably, *see id.* at 13:1. This disclosure supports Defendants’ construction by signifying that a protected partition is a secure device assisted service execution environment.

Figure 1 of the ’042 Patent “illustrates a ***secure execution environment*** 100 (e.g., for a communications device) ***for device assisted services.***” *Id.* at 5:37–39 (emphasis added). Figure 1 also discloses “a protected device assisted service (DAS) execution partition 114 (also referred to as protected DAS partition) in which,” where present, “some or all of the device assisted service agents and/or functions execute.” *Id.* at 5:58–62. The protected DAS execution partition 114 is included in the secure execution environment 100, *id.* at Figure 1, and is established “for secure operation of device assisted services,” *id.* at 6:54–56, which supports Defendants’ proposed construction of “protected partition” as a secure device assisted service execution environment. The specification also explains that a “hardware assisted secure execution partition,” or protected partition, “provides for increased program execution protection for device assisted service agent

functions,” *id.* at 7:25–27, which further supports Defendants’ construction by confirming that the protected partition is used as a secure device assisted service execution environment.

Several other portions of the specification also support Defendants’ proposed construction. For example, the specification explains that the protected DAS partition is secure and “can also communicate with other applications and/or kernel programs but only through a restricted encrypted communication bus that restricts outside program access to protected programs or agent functions.” *Id.* at 8:60–64. The specification then goes on to equate the protected partition with a secure device assisted service execution environment by stating that “various other techniques can be provided for *the DAS execution environments.*” *Id.* at 8:67–9:1. And the protected partition is used to “securely store” information. *Id.* at 10:55–60. Further, Figures 2–4 illustrate secure execution environments for device assisted services, *see id.* at 12:24–26, 13:2–11, 15:4–13, where the secure execution environments include protected DAS partitions, *see id.* at 12:45–51, 13:2–11, 15:4–13. The inclusion of the protected partitions in the secure execution environments supports Defendants’ proposed construction of “protected partition,” as the recited partitions are each, always, secure device assisted service execution environments.

Headwater’s contentions that the scope of the term “protected partition” is clear and that construction of this “simple” term is not necessary, Br. at 21–22, are not correct. Headwater cites the statements in claim 1 that “the particular service policy setting [is] stored in a protected partition of the wireless end-user device” and “the protected partition [is] configured to deter or prevent unauthorized modifications to the particular service policy setting” in support of its position. But Headwater does not and cannot explain how these statements confirm that the term “protected partition” is simple or clear. Br. at 22. The technical term “protected partition” should

be construed in light of the portions of the specification and claims cited above to aid the jury in understanding the proper scope of the term.

Headwater argues that injecting the “device assisted service” language into the claim term is improper, Br. at 22, but the construction proposed by Defendants that includes this language is fully supported by the intrinsic record. Simply because another claim cited by Defendants, Br. at 22, includes this language does not mean that a proposed construction cannot also include it to provide the proper scope of the claimed “protected partition.” And Headwater’s argument that “Defendants seek to limit the claims to exemplary embodiments in the specification” and to “import language from the specification into the claims” is wrong. Br. at 22. Each and every embodiment disclosed in the ’042 Patent’s specification is consistent with Defendants’ proposed construction. *See, e.g.*, ’042 Patent, Figures 1–4. Figures 1–4 illustrate secure execution environments for device assisted services, where the secure execution environments include protected DAS partitions. This disclosure confirms that the protected DAS partitions are included in secure execution environments and that a proper construction for “protected partition” is a secure device assisted service execution environment. Headwater has not pointed to a single embodiment that undermines Defendants’ proposed construction. Defendants’ construction guides the jury as to what “protected partition” means in the context of the claims and the specification, while Headwater provides no meaningful limit on claim scope.

IV. CONCLUSION

For the foregoing reasons, the Court should adopt Defendants’ proposed constructions.

Dated: October 22, 2024

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CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing document was filed electronically in compliance with Local Rule CV-5(a). Plaintiff's counsel of record was served with a true and correct copy of the foregoing document by electronic mail on October 22, 2024.

/s/ Melissa R. Smith
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